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PATENT**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Sanghoon Lee

Christine I. Podilchuk

Serial No.: 09/823,793

Filed: March 30, 2001

For: FOVEATION-BASED ERROR
RESILIENCE ALGORITHM

Examiner: J. Brier

Group Art Unit: 2672

Att'y Docket: 2100.004900

Customer No. 046290

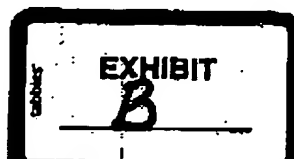
RESPONSE TO OFFICE ACTION DATED MARCH 2, 2002Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING 37 C.F.R. 1.8	
I hereby certify that this correspondence is being mailed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date below:	
<u>11/10/05</u> Date	<u>Kathy Hana</u> Signature

Sir:

This paper is submitted in response to the Office Action dated March 2, 2005, for which the six-month date for response was September 2, 2005. The present application has therefore become unintentionally abandoned. Accordingly, Applicants have submitted herewith a petition to revive an unintentionally abandoned application. If any fees under 37 C.F.R. §§ 1.16 to 1.21 are required for any reason, the Commissioner is authorized to deduct said fees from Williams, Morgan & Amerson's P.C. Deposit Account 50-0786/2100.004900.

Reconsideration of the application is respectfully requested.



Serial No. 09/823,793

REMARKS

Claims 20-25, 31-34, 36, 38, and 40-46 are pending in the present application. In the Office Action, claims 20-25, 31-34, 36, 38, 45, and 46 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Heinzelman, et al (U.S. Patent No. 6,754,277). Claims 40-44 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Heinzelman in view of Applicants' Admitted Prior Art. The Examiner's rejections are respectfully traversed.

The visual field produced by a human eye is foveated, *i.e.* the resolution of images in the visual field exponentially decreases away from the focal point of the eye. The point in the visual field corresponding to the focal point of the eye is often referred to as the foveation point. The amount of data required to represent images in the video field may be reduced by removing high frequency data components from areas of the lesser importance in the visual field, *i.e.* background areas outside a foveation area that is proximate the foveation point. See Patent Application, page 2, ll. 1-10.

Thus, independent claims 20, 25, 40, and 45 set forth, among other things, defining at least one foveation point in a video image and defining at least one foveated area in proximity to the foveation point. For example, the foveated area may be defined using a local or remote pointing device that may be used to control the direction of a video camera. See Patent Application, page 5, ll. 15-17. Applicants also describe and claim extracting a first plurality of data signals from a video image representing the foveated area and extracting a second plurality of data signals from the video image representing a background area. Applicants further claim encoding the extracted first plurality of data signals with a first error correction protocol to create a first encoded signal and encoding the extracted second plurality of data signals with a second error correction protocol different from the first error correction protocol.

Claim 46 sets forth decoding a first signal indicative of at least one foveation area around a foveation point in a video image, wherein the first signal is encoded according to a first error correction protocol. Claim 46 also sets forth correcting errors within the first signal using a high-priority processing step to create a received foveated area and decoding a second signal indicative of a background area in the video image, wherein the second signal is encoded according to a second error correction protocol different from the first error correction protocol. Claim 46 further claims correcting errors within the second signal using a low priority processing step to create a received background area.

In contrast, Heinzelman describes partitioning a video image into motion data and texture data and then providing error protection for the motion data that is greater than the error protection that is provided for the texture data. Heinzelman does not describe or suggest defining at least one foveation point in a video image. Heinzelman also fails to teach or suggest defining at least one foveated area in proximity to the foveation point. Accordingly, Heinzelman fails to teach or suggest providing different encoding schemes for data signals corresponding to a foveated area and a background area.

In response to the above argument, the Examiner states that Hinzelman provides different encoding schemes for motion areas and texture information. The Examiner then alleges that the motion area described by Hinzelman is a foveation area because the patent application states that a foveation area may correspond to a moving portion of the image. Applicants respectfully disagree and note that foveation points are defined to be the points of highest visual importance as perceived by the human eye. Foveation areas are areas around the foveation points that are perceived by the human eye with the highest sensitivity. Accordingly, foveation points and the associated foveation areas are determined by the physiology of the human eye and are not

necessarily associated with any particular characteristic of an image. In particular, a moving portion of the image may not necessarily correspond to a foveation point and/or a foveation area. For example, a stationary object seen against a moving background may correspond to a foveation point and/or a foveation area. Accordingly, Applicants respectfully submit that Heinzelman does not describe or suggest, either explicitly or inherently, defining at least one foveation point in a video image. Heinzelman also fails to teach or suggest, either explicitly or inherently, defining at least one foveated area in proximity to the foveation point. Accordingly, Heinzelman fails to teach or suggest, either explicitly or inherently, providing different encoding schemes for data signals corresponding to a foveated area and a background area.

For at least the aforementioned reasons, Applicants respectfully submit that the present invention is not anticipated by Heinzelman and request that the Examiner's rejections of claims 20-25, 31-34, 36, 38, 45, and 46 under 35 U.S.C. 102(e) be withdrawn.

Moreover, it is respectfully submitted that the pending claims are not obvious in view of Heinzelman and the admitted prior art, either alone or in combination. To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. As discussed above, Heinzelman fails to teach or suggest defining at least one foveation point in a video image. Heinzelman also fails to teach or suggest defining at least one foveated area in proximity to the foveation point. Accordingly, Heinzelman fails to teach or suggest providing different encoding schemes for data signals corresponding to a foveated area and a background area.

Heinzelman also fails to provide any suggestion or motivation for modifying the prior art to arrive at Applicants claimed invention. To the contrary, Heinzelman appears to teach away from Applicants' claimed invention. In particular, Heinzelman teaches that motion information


in a video image has a relatively high level of importance because motion-compensation cannot be performed without the motion information. See Heinzelman, col. 2, ll. 46-49. Thus, Heinzelman teaches that video images should be partitioned into motion data and texture data, regardless of whether or not the motion data and/or the texture data are proximate to a foveation point. Thus, Applicants respectfully submit that Heinzelman teaches away from defining at least one foveation point in a video image and defining at least one foveated area in proximity to the foveation point. Heinzelman also teaches away from providing different encoding schemes for data signals corresponding to a foveated area and a background area. It is by now well established that teaching away by the prior art constitutes *prima facie* evidence that the claimed invention is not obvious.

For at least the aforementioned reasons, Applicants respectfully submit that the present invention is not obvious over Heinzelman and the Admitted Prior Art, either alone or in combination. Applicants respectfully request that the Examiner's rejections of claims 40-44 under 35 U.S.C. 103(a) be withdrawn.

For the aforementioned reasons, it is respectfully submitted that all claims pending in the present application are in condition for allowance. The Examiner is invited to contact the undersigned at (713) 934-4052 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

Date: 11/10/05



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